The Goodyear Tire & Rubber Company

Akron, Ohio 44316-0001

ORIGINAL

June 19, 1996

8EHQ-0696-13672

Certified Mail

OPPT Document Processing Center (TS-790)
Attn: Section 8(e) Coordinator
Office of Pollution Prevention and Toxics (OPPT)
U. S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Contains No CBI

8EHQ-96-13672

Dear Ladies/Gentlemen:

Subject: **TSCA Section 8(e) Notice**

This submittal does not contain Confidential Business Information.

The Goodyear Tire & Rubber Company is currently sponsoring studies at Springborn Laboratories, Inc. to assess the potential toxicity of a rubber antioxidant in the environment. The identity of the material is as follows:

CAS Name: 1,4- -Benzenediamine, N, N'-Diphenyl-, Methyl Derivs.

CAS Number: 68478-45-5*

Draft results from these studies were recently communicated to Goodyear. The findings indicate that the test chemical has a 48-hour EC_{50} for daphnid mortality of 0.59 mg/L, a calculated 72-hour EC_{50} for biomass in freshwater green alga of 0.0094 mg/L, and a 14-day LC_{50} in common carp of 0.35 mg/L. These non-trivial adverse effects and the possibility of bioaccumulation suggest that the data should be submitted as a notice under TSCA Section 8(e).

Consequently, under the requirements of Section 8(e) of the Toxic Substances Control Act and EPA's statement of Interpretation and Enforcement Policy, 43 Fed. Reg. 1110 (March 16, 1978), The Goodyear Tire & Rubber Company is providing the EPA with the following summaries:

WINGSTAY 200 - Acute Toxicity to Daphids (Daphnia magna) Under Flow-Through Conditions, Springborn Laboratories, Inc.

WINGSTAY 200 - Toxicity to Freshwater Green Alga, Selenastrum capricornutum, Springborn Laboratories, Inc.

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WINGSTAY 200 - Prolonged Acute Toxicity to Common Carp (Cyprinus carpio) Under Flow-Through Conditions, Springborn Laboratories, Inc.

These findings have not been reported in final form. However, upon completion, these reports will be forwarded to EPA.

My address and telephone number are as follows:

The Goodyear Tire & Rubber Company
Department 100D
1144 East Market Street
Akron, Ohio 44316-0001
Telephone: (330) 796-2362

Sincerely,

Michael W. Smith
Section Manager, Chemical Information
Systems & Regulatory Affairs

MWS:jh
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Attachments (3)

SUMMARY

Wingstay® 200 - Acute Toxicity to Daphnids (*Daphnia magna*) Under Flow-Through Conditions

SPONSOR: The Goodyear Tire & Rubber Company

PROTOCOL TITLE: "Wingstay® 200 - Acute Toxicity to Water Fleas (*Daphnia magna*) Under Flow-Through Conditions, Following OECD Guideline #202," Springborn Protocol #: 020195/OECD/115/Goodyear and Protocol Amendment #1 dated 9 January 1996.

REPORT NUMBER: 96-4-6442

STUDY NUMBER: 13537.0695.6118.115

TEST SUBSTANCE: Wingstay® 200, Lot No. 041194, CAS Registry No. 68953-83-3, a black, viscous, tar-like substance with a purity of 100%, was received from Goodyear Research on 21 November 1994.

TEST DATES: 10 to 12 January 1996

SPECIES: *Daphnia magna*
≤24 hours old
Source: Springborn culture facility

TEST CONDITIONS: 48-hour duration, 19 to 20 °C, a photoperiod of 16 hours light:8 hours darkness at a light intensity of 60 to 80 footcandles

DILUTION WATER: Fortified well water
pH: 8.1
Specific conductivity: 450 to 500 µmhos/cm
Total hardness as $CaCO_3$: 170 to 180 mg/L
Total alkalinity as $CaCO_3$: 110 mg/L

NOMINAL TEST CONCENTRATIONS: 0.19, 0.32, 0.54, 0.90 and 1.5 mg/L

MEAN MEASURED CONCENTRATIONS: 0.087, 0.18, 0.27, 0.46 and 0.81 mg/L

RESULTS:

Based on the results of this study, the 48-hour EC50 for Wingstay® 200 and *D. magna* was estimated by nonlinear interpolation to be 0.59 mg/L (corresponding 95% confidence interval calculated by binomial probability of 0.46 to 0.81 mg/L). Based on the absence of immobilization and adverse effects, the No-Observed-Effect Concentration (NOEC) established for this study was 0.18 mg/L.

SUMMARY

Wingstay® 200 - Toxicity to the Freshwater Green Alga, *Selenastrum capricornutum*

SPONSOR:	The Goodyear Tire & Rubber Company
PROTOCOL TITLE:	"Wingstay® 200 - Acute Toxicity Test to the Freshwater Green Alga, *Selenastrum capricornutum*, Following OECD Guideline #201 and EC Guideline L383A - C.3," Springborn Laboratories Protocol #:100695/OECD/EC/430/Wingstay 200 and Protocol Amendment #1 dated 19 February 1996.
REPORT NUMBER:	96-5-6487
STUDY NUMBER:	13537.1095.6126.430
TEST SUBSTANCE:	Wingstay® 200, Lot No. 041194, CAS Registry No. 68953-83-3, a black, viscous, tar-like substance with a purity of 100%, was received from Goodyear Research on 21 November 1994.
TEST DATES:	9 to 12 April 1996
TEST ORGANISM:	*Selenastrum capricornutum*, inoculum - 4 days since previous transfer, source - Springborn Laboratories' culture
DILUTION WATER:	Algal Assay Procedure (AAP) medium
TEST CONDITIONS:	72-hour duration, 24 to 25 °C, continuous illumination at 400 to 500 footcandles (4300 to 5400 lux), shaking at 100 rpm
NOMINAL TEST CONCENTRATIONS:	0.0024, 0.0081, 0.027, 0.090, 0.30 and 1.0 mg/L
MEAN MEASURED CONCENTRATIONS:	0.0020, 0.0042, 0.016, 0.047, 0.16 and 0.33 mg/L
EFFECT CRITERION:	Inhibition of biomass (area under the growth curve) and average growth rate (μ_{ave}) relative to the performance of the pooled control

RESULTS:

Based on biomass, the 0- to 72-hour E_bC50 value was calculated to be 0.0094 mg/L (corresponding 95% confidence limits of 0.0040 to 0.022 mg/L). Since a statistically significant effect on biomass was observed at all treatment levels tested, the E_bC10 value was calculated to provide a conservative estimate of the 96-hour NOEC value. The 72-hour E_bC10 for biomass was determined to be 0.00075 mg/L (corresponding 95% confidence limits of 0.00028 to 0.0018 mg/L).

Based on average growth rate (μ_{ave}), the 0- to 72-hour E_rC50 was empirically estimated to be 0.11 mg/L (corresponding 95% confidence limits of 0.042 to 0.18 mg/L). The 72-hour NOEC for μ_{ave} for this study was determined to be 0.0020 mg/L.

SUMMARY

Wingstay® 200 - Prolonged Acute Toxicity to Common Carp (*Cyprinus carpio*) Under Flow-Through Conditions

SPONSOR: The Goodyear Tire & Rubber Company

PROTOCOL TITLE: "Wingstay® 200 - Modified, Prolonged Acute Toxicity Test with Common Carp (*Cyprinus carpio*) Under Flow-Through Conditions, Following OECD Guideline #204," Springborn Laboratories Protocol #:020195/OECD#204/171/GOODYEAR and Protocol Amendment #1 dated 2 January 1996.

REPORT NUMBER: 96-4-6453

STUDY NUMBER: 13537.1095.6125.171

TEST SUBSTANCE: Wingstay® 200, Lot No. 041194, CAS Registry No. 68953-83-3, a black, viscous, tar-like substance with a purity of 100%, was received from Goodyear Research on 21 November 1994

TEST DATES: 11 to 25 January 1996

TEST SPECIES: *Cyprinus carpio*, SLI Lot #95A113
Mean wet weight = 3.3 g (range 1.5 to 5.9 g); N = 30
Mean total length = 62 mm (range 46 to 80 mm); N = 30
Source: Osage Catfisheries, Osage, Missouri

TEST CONDITIONS: 14-day duration, 21 to 22 °C, illumination of 16 hours light: 8 hours dark at 60 to 90 footcandles

DILUTION WATER: Well water
pH: 6.6 to 7.0
Specific conductivity: 120 to 150 µmhos/cm
Total hardness as $CaCO_3$: 29 to 46 mg/L
Total alkalinity as $CaCO_3$: 20 to 22 mg/L

NOMINAL TEST CONCENTRATIONS: 0.062, 0.14, 0.30, 0.68 and 1.5 mg/L

MEAN MEASURED CONCENTRATIONS: 0.032, 0.075, 0.17, 0.35 and 0.89 mg/L

RESULTS: The 14-day LC50 value was calculated by moving average angle analysis to be 0.35 mg/L (corresponding 95% confidence interval of 0.29 to 0.42 mg/L). The Lowest-Observed-Effect Concentration (LOEC) was determined to be 0.35 mg/L based on various sublethal effects. The No-Observed-Effect Concentration (NOEC) was determined to be 0.17 mg/L.